

IN THE CLAIMS:

Kindly replace the claims of record with the following full set of claims:

1 (Currently amended) An encoding method for encoding a description element of an instance of a markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, said description elements to be encoded comprising a content, wherein the method includes the steps of:

providing a table derived from said schema, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element ~~[[form]]~~ from its parent description element,

scanning a hierarchical memory representation of said instance from parent description elements to child description elements until reaching the description element to be encoded, and retrieving the identification information of each scanned description element from said table, ~~and~~

encoding said description element to be encoded as a binary fragment comprising said content and a sequence of the retrieved identification information, wherein said binary fragment includes at least two control bits; and

transmitting said encoded description element.

2. (Currently amended) An encoding method as claimed in claim 1, characterized in that when a description element is defined in the schema as possibly having multiple occurrences, said table further comprises, for said description element, an occurrence information for indicating that said description element may have multiple occurrences in an instance, and when an occurrence having a given ~~[[rand]]~~ rank is scanned during the

encoding, the corresponding retrieved identification information is indexed with said rank.

3. (Currently amended) A decoding method for decoding a binary fragment comprising a content and a sequence of identification information, wherein the decoding method comprising the steps of ~~includes~~:

using at least one table derived from a markup language schema, said schema defining a hierarchical structure of description elements comprising hierarchical levels, parent description elements and child description elements, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description elements from its parent description element,

scanning said sequence identification information by identification information,

at each step searching in said table for the description element associated to the current identification information and adding said description element to a hierarchical memory representation of an instance of said schema if not already contained in said hierarchical memory representation, and

adding said content to the description element of said hierarchical memory representation that is associated to the last identification information of said sequence.

4. (Previously presented) A decoding method as claimed in claim 3, characterized in that when a description element is defined in the schema as possibly having multiple occurrences, said table further comprises for said description element an occurrence information for indicating that said description element may have multiple occurrences in an instance, and when said sequence comprises an indexed identification information, said index is interpreted as an occurrence rank for the associated description element,

same description element(s) of lower rank(s) being added to said hierarchical memory representation if not already contained in said hierarchical memory representation.

5. (Currently amended) An encoder for encoding a description element of an instance of a markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, said description elements to be encoded comprising a content, ~~characterized in that~~ the encoder comprises:

a memory for storing at least one table derived from said schema, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element, and

computing means for scanning said instance from parent description elements to child description elements until reaching the description element to be encoded, and retrieving the identification information of each scanned description element, and for encoding said description element to be encoded as a binary fragment comprising said content and a sequence of the retrieved identification information, wherein said binary fragment includes at least two control bits; and

means for outputting the encoded description element.

6. (Currently amended) A decoder for decoding a binary fragment comprising a content and a sequence of identification information, characterized in that the decoder comprises:

a memory for storing at least one table derived from a markup language schema, said schema defining a hierarchical structure of description elements comprising hierarchical levels, parent description elements and child description elements, said table containing identification information for solely identifying each description element in a

hierarchical level, and structural information for retrieving any child description element from its parent description element,

computing means for:

scanning said sequence identification information by identification information, at each step searching in said table for the description element associated to the current identification information and adding said description element to a hierarchical memory representation of an instance of said schema if not already contained in said hierarchical memory representation, ~~and~~

adding said content to the description element of said hierarchical memory representation that is associated to the last identification information of said sequence; and

outputting said decoded description element.

7. (Original) A transmission system comprising an encoder as claimed in claim 5.

8. (Previously presented) A transmission system comprising a decoder as claimed in claim 6.

9. (Currently amended) A data transmission system, the data transmission system includes a signal transmitted for transmission over a transmission network that comprises an encoder and a decoder having a memory storing at least one table derived from a markup language schema, said markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, said table containing identification information for solely identifying each description element in a hierarchical level, and

structural information for retrieving any child description element from its parent description element[[,]]:

[[wherein]] said signal includes at least one binary fragment representing a content of an encoded description element, and a sequence of identification information being associated in said table to said encoded description element and at least one parent description element, wherein the sequence of identification information is usable by the decoder as a key to decode the encoded description element, wherein said at least one binary fragment includes at least two control bits.

10. (Currently amended) A computer program product ~~comprising a computer useable medium~~ having computer readable program code embodied therein for reporting on performance of a plurality of parameters, the program product comprising:

program code configured to implement a decoder having a table for updating a hierarchical memory representation of an instance of a markup language schema, said markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, characterized in that the table is derived from said markup language schema, and the table contains identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from [[it]] its parent description element in a received binary fragment.